

Job Completion Report

State of TEXAS

Project No. F-6-R-8

Name: Fisheries Investigations and Surveys
of the Waters of Region 8-B.

Job No. B-17

Title: Basic Survey and Inventory of Fish
Species present in Anzalduas Reservoir.

Period covered:

January 1, 1960 - December 31, 1960

OBJECTIVES

To determine the chemical and physical characteristics of the Anzalduas Reservoir and the relative numbers of the fish species present.

PROCEDURE

During February, a trip to Mission and McAllen was made to resurvey Bentsen State Park Lake. One day was spent in conferring with International Boundary and Water Commission engineers about Anzalduas Reservoir and with the local state Game and Fish Warden about finding boat landings on the reservoir. Only one netting trip covering three days was made by the project leader and two field assistants in October. Four gill net sets were made but neither water samples nor seining collections were made. The planned bi-monthly trips to the reservoir were not made because for the first six months of the period the project leader was unable to travel, recovering from surgery and almost continuous rains and floods during the second six months prevented access to the only available boat landing.

FINDINGS

No chemical analyses were made of the waters of the reservoir because reagents were not taken along on the netting trip. Some physical data was obtained through conferences with the engineers of the International Boundary and Water Commission office at McAllen.

Anzalduas Reservoir is formed by a dam across the Rio Grande about six miles southeast of Mission, Hidalgo County, Texas. The dam was closed in early summer of 1960 and its purpose was to raise the level of the river in order to provide gravity flow water to a large irrigation ditch serving the Mexican side of the lower Rio Grande Valley. A similar irrigation system is planned later for the American side. As yet, there are no available figures for the surface acreage or capacity of the reservoir. No map, except of the Rio Grande prior to flooding, is available.

Water is released from Falcon Dam, about 85 river miles above Anzalduas dam, on demand of irrigation needs. The water in Anzalduas reservoir is contained almost entirely within the natural levees lining the river and there is little overflow into adjacent flat farm lands. When water is being taken into the irrigation ditch, there

is an observable flow throughout the reservoir. At the only accessible and usable boat landing found, about eight miles above the dam, the water level seemed to fluctuate about three feet vertically.

One netting trip was made in October, 1960, by the project leader and two field assistants. Four experimental gill nets were set approximately 2, 8, 14 and 20 miles above the dam. Thirty fish of seven species were taken as shown in Tables 1 and 2. This catch was surprisingly low in numbers, variety and percentage of game fish. Both largemouth bass, Micropterus salmoides, and white bass, Roccus chrysops, are known to produce very good seasonal fishing just below Falcon Dam, just about 85 river miles upstream from Anzalduas Dam. Several other species of fish were expected but probably missed due to netting error and the small number of nets set. Numerous signs of fishing with trotlines and throwlines were seen at several places along the lake where public access was available. Reports from several people contacted indicated that catfishing was very good at times. The local Mexican population apparently makes considerable use of both gars, Lepisosteus sps., and smallmouth buffalo, Ictiobus bubalus. The only usable seining beaches seen while setting the nets were on the Mexican side of the reservoir, therefore no seining collections were made.

CONCLUSIONS AND RECOMMENDATIONS

On the basis of four netting collections, the fish population of the Anzalduas Reservoir seems to be very low in numbers and species. As the reservoir becomes better established, the population should increase. It is recommended that this job be continued for another segment to obtain more information concerning both the fish and the physical and chemical characteristics of the reservoir.

Prepared by Alvin G. Flury
Project Leader

Approved by Marion Toole
Director Inland Fisheries Division

Date February 24, 1961

Table 1. Results of netting collections with experimental gill nets, Anzalduas Reservoir, October 1960.

Species	Fish collected				Percent of total number	Weight of fish collected (grams)				Percent of total weight	
	Stations 1	Stations 2	Stations 3	Stations 4		Number	1	2	3		4
Alligator gar	1		1	1	3	5,160	1,361	21,857	7,172	34,189	55.13
Longnose gar	4	1	2	3	6	827	195	4,650	9,440	15,451	24.91
Gizzard shad	2	1		1	2	5,954	4,455		213	1,235	2.00
Smallmouth buffalo	2	5			7	328	735		75	5,954	9.60
Blue catfish*	1	2	1	1	5	50		106	34	4,783	7.71
Freshwater drum					1					966	0.59
Rio Grande cichlid					1					34	0.06
Totals	10	9	4	7	30	12,319	6,146	26,613	16,934	62,012	100.00

*indicates game fish

Table 2. Length-weight statistics for fish from Anzalduas Reservoir, October 1960.

Species	Standard length (millimeters)		Weight		"K" factors	
	Range	Average	Range	Average	Range	Average
Alligator gar	840-1370	1,030	5160-21857	11,396	0.85-1.05	0.92
Longnose gar	700-880	795	1247-5443	2,575	0.32-0.80	0.48
Gizzard shad	212-241	224	175-260	206	1.76-1.87	1.82
Smallmouth buffalo	370-490	430	1616-4338	2,977	3.19-3.69	3.44
Blue catfish	230-490	356	163-1588	683	1.19-1.35	1.29
Freshwater drum	112-173	146	25-110	73	1.78-2.46	2.17
Rio Grande cichlid	92-92	92	34-34	34	4.35-4.35	4.35

